College

Entomology

No. 1

of the first rank & fashion

as to have occupied the attention of both sexes in
england and on the continent of Europe when.
the entomological always forms an important department
of their cabinets and occupied the talents of some of her greatest men
the study of Insects thought it had neither rank nor fashion
But then to recommend it
( ) not only
actually is connected with all the comforts convenience and
useful even the elegance of life as well as the verbal its very
Cautionary Continual necessaries can scarcely
Can it be necessary to remind the reader
with the ravages many of them commit on the
grain - fruit - grass - and every object with
the immediate = the agriculture It would be
no wild calculation to estimate the damage
done to fruit grass & crops of grain generally
at 10,000,000 dollars annually by the circulio the Grylli the Hessian fly - the cut
worm the totaio worm tarnish fly - Cucumber fly
the cabbage Cutter the Galerucæ Cucumis and
the countless host of depredators by day & by night above & below
the earth (the meal bug - flea + the destructive to
timber from the Cerambyces &c
which amply make up in consequence by their numbers for their minuteness
Of is from consideration like these that
entomology derives an importance beyond every other
department of animated nature, (the use bono)
and furnishes the best answer to enquiries so often
made by the ignorant as well as by others well informed in this country
of what use is it. can money be made by it
Surely science to which Egypt was
indebted for some of her gods which furnished
the first idea of the doctrine of the Metempsychosis
the Persians and which afford the finest
indeed the only emblem of the immortality of the soul
Illustration
that is intimately connected with the comfort & happiness
of life that affords to many relief and sickness &
cloth in health and comfort in death is a way
must be allowed
worthy of cultivation

Nor is this all which may be said in favor of the
study of Entomology an examination of the forms
& structure of these minute objects may lead
to results equally interesting & important as the arts
The large boat beetle Hydrophilus ——— offers
to the mechanician perhaps the best form for the
diving boat or submarine vessel — Some of
the Scarabei carry over their head a pick &
two strong pointed shovel and a rake & brush on
the fore shanks — the stag Beetle of the sirex & the Cicadae
may lead to improvements in the gimblet davyes &c —
the female Locustae carry a well constructed
Lance Scythe perhaps better than the form usually
attached to the plough — while others may afford
other hints to genius — The considerations
which naturally result from the examination of
their structure — increases our admiration of the
deity & creates of all — whilst their domestic
economy affords useful lessons to the reflecting
mind — this last sentiment has been beautifully
enforced by the elegant Bishop (Gay)

"The daily labors of the Bee
Awake the soul to industry
Who can observe the cheerful ants
And not provide for future wants
The smallest objects of Creation
Can furnish hints for contemplation
And from the most minute & mean
A virtuous mind may morals glean.

End of the Preface

Another view of the subject presents itself
The powers of the larger animals bear no proportion
generally to those of insects — the haughty lord of the Creation is
able to raise about the of little more than his own
weight while many of the Scarabaei tribe will move
with ease under a load weighing 30 & 50 times their own weight

than can leap but his own length while than of
the Greyhy can leap 50 to 80 time, their own
& the flea more than an hundred — some
for surpass him in acuteness of sight. others in
sense of smell; the male Bombyx dele will find
it mate in the darkest night. thought miles apart
Man too is confined to the earth while many
of the insects range ocean earth & air at will
in pursuit of pleasure for the gratifiers of appetite
* Their life though shorter is exempt from care
and pain they probably are not endued with
the same exquisite sense of pain —*

* he too has been not inaptly called the
insect of an hour —

Order I

Coleoptera —

An order in the Linnaean system comprehending such insects as have four wings, the upper pair of which are crustaceous and divided by a straight suture — the word is derived from κολεὸς a sheath and πτερὸν. a wing

Quinquetarsea. First sub order or Division
Diversitarsea 2nd do
Quadritarsea 3d do.
Tritarsea 4th do —

The Genera are Coccinella (Lady bird), Silpha (or Carrion Beetle), Scarabaeus (Beetle). Dytiscus Hydaticus Stictoptera Elater, Chrysomela, Cassindela, Necydalis (Carrion Eater), Tipulara .. Carabus. Hydrophilus. Melmestes Cerambyx Prionus Lamia Clytus Saperda Rhagium, Cassida Lampyris Bostrychus Brentus Bruchus Bupprestis Lucanus Lyttа, Meloe Curculio Nitidula Cucujus Notoxus Staphylinus Hispa Attelabes Cantharis Tenebrio. Pimelia, Helops. Mordella Mylabris Fasicula Coccinella, possess according to the system of Linnaeus. the following essential characters; antennae elevated, or ending in a club, which is solid and truncated; anterior feelers hatched, shaped, posterior filiform, thorax and wing cases marginated, the body hemisphaerical, and the abdomen flat beneath. The Fabrician character of the Coccinella consists in having the anterior feelers hatched-shaped the posterior filiform; lip cylindrical; and the antennae terminating in a solid club

This genus of insects is divided into sections according to the colour of the wing cases, and the spots or dots with which they are marked. The first section comprehends those which have the wing cases red or yellow and marked with black dots; the second those having the wing cases red or yellow with white or whitish dots; the third has the wing cases yellow spotted with red; the fourth the wing cases black, with red spots; and the fifth the wing cases black, dotted with white or yellow —

The coccinellae are generally found on plants, and they subsist chiefly on the aphides or lice that infest vegetables, are to be numbered among those insects which are essentially serviceable to horticulture and agriculture. The larvae of the coccinellae, a lively race, are frequently seen running briskly over plants in search of the aphides which they attack with ferocity, and devour in vast numbers. These larvae are of an elongated figure, becoming pointed towards the tail; the head is rather flat and protected by a scaly covering, but the rest of the body is naked. This animal is furnished with six legs, which like the head are of a scaly nature. The body consists of twelve joints or annulations, and in some species is rough with little tuberose or wart like pustules. When in the pupa state, the coccinella are involloped in a thin and delicate membrane, and are attached to the under surface of the leaves of those plants which they most commonly inhabit in the larva and fly state. The pupa of many species are elegantly dotted and spotted with black upon a ground of various colours. The insects of this genus with few exceptions are of small size.

Scarabaeus Beetle, the generic character is as follows; the antennae are clavate; the club is lamellate; the insects of the genus have four feelers, and the forelhanks are generally toothed

The Larvae or grubs of beetles have six feet; they are annulated, hairy, vesicular at the end of the abdomen, and furnished with a horny head. They live quietly under ground; most of them delight in, and feed upon, decay: the tribes of the Cetonicae live on decayed woods, and of the Melolonthae on the roots of plants: the nymphae lie dormant under the earth.

There have been about 600 species of this genus enumerated by Gmelin, which are seperated into four divisions, viz; those which have filiform feelers; those whose feelers are capitate, and jaws bifid; those which have cylindrical feelers; and the club of the antennae typically and those whose feelers are unequal, the fore ones subclavate the hind ones filiform: Of the last three there are but few species; the great mass is to be found in the first division.

Hydrophiles; a genus of water Coleoptera nearly allied in manner of life and appearance to the Dytisci; its generical distinction consists in having the antennae clavated, and the club perfoliated; the feelers four and filiform; and the posterior legs formed for swimming, with the inner edge in general ciliated — and armed with small claws —

Marsham observes that the "Antennae clava perfoliata; trifida; palpi breviores; caput insertum; thorax transversus; corpus ovale, convexum; pedes postici in plerisque ciliati."

Walkenaer in his "Faune Parisienne" has in addition to the characters assigned it by others, has "Palpes, quatre alongés filiformes. Machoire bifide. Lèvre cornée, légerement echancrée. Languette légerement echancrée. Antenne en massue perfoliée.

Like the Dytisci they inhabit ponds of stagnant waters residing in the aequatic element during the day time and venturing abroad on the wing in the night

The males are distinguished from the females by having a horny flap or shield of a concave form on the anterior legs. The posterior legs are adapted in an admirable and peculiar manner to its mode of life, being long curved, and flattish, and furnished on the inner side with a series of close set filaments, resembling a fin.

The larvae like those of the Dytici are fierce footed which live in the waters and prey upon insects the fry of fishes and other other aequatic inhabitants.

It is supposed to be 3 years in a state of larvae they appear in the winged state not to be carnivorous. but to live chiefly on vegetable food —

Dermestes. These have the antennae clavate, the club perfoliate and three of the joints thicker than the others; the thorax convex and slightly margined; head inflected and concealed under the thorax. Linn. Gmelin divides the Dermestes genus into two families; the first including those with the jaws bifid; the other such as have the jaw armed with a single tooth. In the Ent Britan of Marsham they constitute 3 families, one of which is distinguished by having the body oblong; the two other have the body ovate, but one has the extreme joint of the antennae obtuse, and the other rather pointed. The Linn genus dermestes contains a number of insects described by Thunberg under the title of Anobium, and of the Ips of Olivier, and Ligniperda of Latr. - Fabricius forms several genera of the Linnaean Dermestes.

The greater number of this tribe subsist in the larva state on the dried skins of animals, and indeed on almost any kind of animal substance; they are exceedingly destructive to leather, and also to timber, and some of the species are too well known from the havoc they occasion among books and furniture. A few kind are found on flowers -

Carabes. have the antennae filiform: thorax somewhat heart-shaped, truncated behind — with the wing cases margined — This is the essential character of the Genus, which is further distinguished by having 6 feelers, each of which has the last joint obtuse and truncated; the abdomen ovate; and the posterior thighs furnished with an appendage at the base. The mouth is also small, the lip in some entire and truncated as in the true Fabrician Carabi; dentated as in his Scarites or trifid, as in his manticora all which belong to the Linnaean Carabi; except a few of the Scarites that are Tenebriones of that author — The legs of the Carabi are also long; the thighs compressed, shanks round and ciliated within, the anterior part spinous before the tips, and the tarsi of all the legs composed of five joints

Sect 1.re Thorax heart-shaped —

2nd Thorax narrowed behind —

3d Thorax square —

4th. Thorax rounded, with a slightly prominent obtuse margin —

5th Thorax various, or uncertain —

see Rees Cyclop.

Cassida (tortoise beetle)

have moniliform antennae that become thicker toward the end; thorax and wing cases with a broad margin, the former flat, and forming a kind of shield, beneath which the head is concealed. To this Marsham adds; the body is oval convex and flat beneath (Ent Brit.) Fabricius who takes his characters principally from the parts of the mouth observes that the anterior feelers are clavate, and those behind filiform; lip elongated and entire, and the antennae moniliform.

The above are essential characters of the genus to which a few general particulars may be added The rotundate figure of the body gibbous back and flattened surface beneath are strong criteria of this genus. The surface above is commonly smooth and in some species glossy. eyes oval, and placed near each other. antennae inserted between the eyes, scutel triangular and small; wing cases same length as the abdomen; legs short, thighs compressed, shanks rounded and the tarsi consisting of 4 joints. Many of the species are very beautiful when alive, some retain their brilliancy of colours in the height of perfection after death; in others, however, and those especially of a small size they are altogether evanescent, their rich metallic or golden hues fading as the insect dies and totally disappearing in the dried specimen Cassidae immersed in spirit of wine alive retain the splendour of those golden hues for years in as high perfection as they appear in the living insect.

The larvae are commonly concealed on the under surface of the leaves of plants on which they feed — and often hide themselves under a cover of their own excrements which they support on the air — above their bodies by means of their lateral spines, and the bristles at the extremity of the tail to shelter themselves from the sun and rain The larvae cast their skins several times before they pass into the pupa state — The perfect female insects deposit their eggs in regular order on the leaves of plants and cover them with excrements to conceal them. —

Lampyris (glow-worm in Engl) (Firefly in the U.S.)

Characters of Linn. Antennae filiform; wing cases weak and flexible; thorax flat, semi orbicular, surrounding and concealing the head; segments of the abdomen terminating in folded papillae; females in general destitute of wings

Fabrician Characters of Lampyris genus consist in having 4 subclavate feelers; jaw bifid; lip horny and entire; antennae filiform.

The females nearly resemble the larvae being of a lengthened form divided into a number of distinct segments, the head scaly and the anterior part of the body furnished with six scaly feet. The larvae feed on leaves. The eggs which are numerous, are usually deposited near the roots of grass.

Bostrychues, antennæ clavates, club solid; thorax convex, with a slight margin; head inflected, and concealed under the thorax. Lymel Fabr.

Brentus head projecting into a very long, straight cylindrical snout, beyond the middle of which the antennæ, which are moniliform, are inserted. Fabr. Rothius —

Dytiscus a genus of Coleoptera of the aequatic kind, distinguished by having the antennae setaceous; feelers six in number, and filiform; hind legs formed for swimming, fringed on the inner side, and nearly unarmed with claws. The species are inhabitants of stagnant waters, and from the peculiar structure of the legs are able to swim very well; they are seldom observed on the wing, except in the night time when they fly abroad in search of other waters: The males have a horny concave flap or shield on the fore legs. The larvae subsist on worms, aequatic insects, and the fry of fish, the latter of which they destroy in vast numbers when first hatched from the egg. They seize their prey by means of their strong forcipated jaws, and destroy it by sucking out the moisture. Linnaeus included under the generic name of dytiscus, the insects which later writers comprehend under the two genera of Dytiscus and Hydrophilus. It is under stood that Linnaeus aware of the impropriety of uniting those two distinct natural families intended afterwards to separate them into two genera. Fabricius has since divided them; the character of his genus Hydrophilus consists in having four filiform feelers; the maxilla bifid; lip horny, and sub-emarginate; and the antennae clavated and perfoliated; and his dytiscus six filiform feelers; the lip horny, truncated and entire the antennae setaceous; Gmelin adopts the genus Hydrophilus in his edition of the System

Elater a genus of Coleoptera. The antennae are filiform, and situated in a groove under the head and thorax; under side of the thorax terminating in a an elastic spine, placed in the cavity of the abdomen.

The species of this genus are generally of an elongated form and sub-cylindrical form, and spring to a considerable distance by means of the spine at the extremity of the thorax; when placed on the back, these insects strike the spine forcibly against the body, and by the sudden jerk turn over and recover their natural position. Many of this genus afford also a strong phosphoric light in the night time, like the glow worm, but of greater lustre. A number of the species are found in Europe, chiefly those of small size the larger kinds being mostly natives of hot climates

Chrysomela a genus of Coleoptera in the Linn Syst. the
containing many beautiful species. In the larva state they
feed on the leaves of plants and trees, the pulp
and tender parts of which they devour, but reject
the fibres; some kinds infest the cotyledons only and
are very destructive; In the perfect, as well as the
larva state, they are found chiefly in woods and
gardens. Many of these insects are slow in motion,
but some kinds have the posterior legs formed for leaping
The antennae of the chrysomelae, are moniliform, or
composed of little globular articulations; feelers six,
thickest towards the end; thorax marginate; wing-cases
immarginate; body in most species oval. Lymel Linn.
Syst. Nat.
see the whole article — Rees. Cyclop

The Fabrician genus Chrysomela consist of those insects
which have six feelers thickest towards the end; the
lip horny and entire; and the antennae moniliform:
those correspond with the Linnaean characters of the Chrysomela
but the species described by this writer are numerous,
and with a few exceptions, consist of insects entirely
unknown to Linnaeus. The works of Panzer. Marsham,
and other recent Entomologists comprehend likewise a
great variety of new species. —

{ Cicindela a beautiful genus of the coleoptera tribe, found in general in dry sandy places, and in none more abundantly or in greater variety than on the arid tracts of land upon the seashore. They are extremely voracious, and prey on every other kind of insects they can overcome, and on other animal substances. The larvae of the cicindelae are furnished with six feet; they are commonly whitish, soft, and long and have the head scaly. These larvae live chiefly under ground, and when waiting for prey lurk in a round perpendicular hole, with the head just emerging to the surface to seize upon other insects that may happen to fall into the cell or approach near it —

Silpha. The generic character is, Antennae clavate, the club perfoliate; shells margined; head prominent; thorax somewhat flattened and margined. This genus of insects, from its habits, is known by the trivial name of the Carrion Beetle. The several species are commonly found among decayed animal or vegetable substances, frequenting also dunghills, carrion, and other offensive matter: they lay their eggs chiefly in dead and putrid carcases of animals. The larvae are of a lengthened shape, and of an unpleasant appearance being generally overspread with minute spines and protuberances. There are about 120 species in 8 separate divisions or sections -

Sect A is characterised by a dilated and bifid lip, and a one toothed jaw.

Sect B. is distinguished by an entirely rounded lip, and a one toothed jaw -

" C. Lip horny, entire; the jaw is bifid.

D. Lip emarginate, conic; jaw bifid.

E. Insects of this Section are characterised by a heart-shaped lip; emarginate and crenate.

F. Lip Square and emarginate.

G lip long and entire. Antennae serrate.

H lip and jaw unknown -

Neocydalis carrion Cater. The generic character is; antennae setaceous or filiform; four feelers that are filiform shells less than the wings, and either narrower or shorter than the abdomen; the tail is simple.

There are 39 species seperated into two divisions

A. antennae setaceous, shells shorter than the wings and abdomen.

B. antennae filiform; shells subulate, as long as the body.

Leptura antennae setaceous; palpi four and filiform;
wing cases tapering towards the tip. Those of the
Linnaen Lepturae, which have the lip entire, constitute
the Genus Donacia of Fabricius; and such as have
the lip bifid form a part of the Lepturae of that
author; for the latter do not exclusively consist of those
insect which, according to the Linnaen character, belong
to Leptura; Leptura abbreviata of Fabricius, for example,
is [redacted] necydalis major of Linnaeus, and Leptura
variegata, the Gmelinian necydalis variegata. Most
of the Leptura tribe are furnished with legs of pretty
considerable length, run with much speed and activity
; and are found on flowers -

Bruchus antennae filiform, equal filiform feelers, and acuminated lip. Gmel.

Buprestis The insects of this kind have the antennae serrated and as long as the thorax; feelers four, which are also filiform, with the last joint obtuse, or truncated; head partly retracted within the thorax.

They are distinguished in a peculiar manner for the uncommon brilliancy and highly metallic splendour of their colours, which emulate the finest and most beautifully polished metals

Some writers affirm that the larvae of the buprestis live in the solid wood, or in the trunk of delayed trees; but this is rather uncertain, since they do not appear to be exactly known in that state. The conjecture is however plausible the perfect insects being almost constantly found upon trees or plants, and flowers. The largest and most brilliant of this tribe are from the Brasils and other hot countries — few are found in Europe —

Lucanus antennae clavate; the club compressed and divided into short pectinate leaves; jaws projecting beyond the head; so as to resemble horns, toothed; two palpigerous tufts under the lip.

This genus differs chiefly from the Scarabaeus in having the jaws considerably elongated so as to give the appearance of a pair of denticulated horns; while the antennae terminate in a laterally flattened tip divided on the interior side into several lamellae

There are 26 Species & 6 ~~Asiat~~ Melsheimer.

Lytta (Blistering fly) antennae filiform; four unequal feelers, the hind ones clavate; thorax roundish; head inflected gibbous; shells soft, flexile, as long as the abdomen

Meloe (the Bloßom Eater) antennae moniliform; thorax roundish, head inflected and gibbous; shells soft and flexile.
This genus is divided into two divisions those which have wings and those without; the latter division is subdivided

Staphylinus — generic character is as follows — Antennae moniliform; four feelers; shell half as long as the body; wings folded up under the shell; tail not armed with a forceps; furnished with two exserted vesicles; The insects of this genus are extremely rapacious, devouring not only the insects of other genera, but frequently each other. Many of them when attempted to be caught turn up the tail. The jaws are strong and exserted, with which the bite and pinch very hard: most of them are found in damp moist places, among substances, and a few upon flowers. There are about 180 species, separated into three sections, according as their feelers are filiform, hatchet shaped, or clavate

A all the feelers filiform
B hind feelers hatchet shaped. Oxyporus.
C fore feelers clavate Pederus.

Curculio antennae clavated or terminated in a club. and seated on the snout, which is horny and prominent; feelers four and filiform. The Curculiones in a state of larvae subsist generally on the seeds of plants many of them infest granaries, and commit vast depredations devouring the ripened cotyledons and leaving only the husk the larvae have six scaly legs. and the head is protected with a scaly covering. The perfect insects are in general of an elegant form and some of the species infinitely more remarkable for the splendour and beauty of their colours. than almost any of the insect race. The species are very numerous. and are divided into sections or small distinct families. Fabricius divides them into three Genera. Curculio. Anthribus and Brachycerus. Some other continental naturalists divide them into a still greater number of genera

~~Notoxeta (boot fly)~~

Nitidula antennae clavate, the club solid; shells margined; head prominent; thorax a little flattened, margined; There are 43 species, divided into two sections, viz. those that have a cylindrical lip, and those that have a square lip. In the former division there are 33 species in the latter only 10. these last form the tribe of Elophores of Fabricius.

Sect A lip cylindrical chiefly found on plants & flowers

B lip square — most part aquatic insects found in stagnant waters, or under duck weed.

Cucujus established by Fabricius & adopted by Gmelin

The character of the genus after the Linnaean method of classification consists in having the antennae filiform; feelers four; and equal, the extreme joint truncated and thicker; lip short and bifid, with linear distant divisions; and the body depressed.

The essential or generic character as laid down by Fabricius, is chiefly taken, as usual in the system of that author, from the structure of the mouth; the four equal feelers having the extreme joint truncated; and thicker; the short bifid lip with linear distant divisions; and the antennae being moniliform and filiform, constitute the Fabrician character of the Cucujus genus.

Notoxus. The generic character is as follows. antennae filiform; feelers, four, hatchet-shaped; the jaw is one toothed; the thorax is a little narrowed behind. of this genus there are 13 species.

Order II.

Hemiptera from ημισυς half + πτερον a wing

Characters of Genera taken from the situation of the mouth, the shape texture and position of the wing cases, the mouth is bent in towards the breast, the wing cases are soft coriaceous and disposed obliquely. the base of the left covering the inner margin of the base of the right in such manner that the posterior half of one is overlaid by the corresponding extremity of the other. Linnaeus under this order includes the following genera, Blatta Mantis Gryllus Fulgora Cicada Notonecta, Nepa, Cimex Aphis Chermes Coccus and Thrips —

Wing Cases.

In the Cimices } the extreme half of one folds across the
Nepae } extreme half of the other and the suture
Notonectae } (considered throughout) is curved obliquely:
then at rest

In the Gryllii } the suture is straight and as distinctly
Fulgorae } forms a longitudinal dorsal line as in
Cicadae } the insects of the Coleopterous order
do.

Mouth

Of the Gryllus. } furnished with genuine jaws or mandibles
Blatta } adapted to the purpose of cutting their
Mantis } food. (like other Insects laterally) and these jaws are covered with an obtuse shield

Of the Cimex } consists litterally of an articulated tube
Nepa or } or sucker, which is either inflected or arched
Notonecta } and bent underneath the head and is in
Fulgora } general of pretty considerable length — This
Cicada } Sucker shews that its owner is not destined
Coccus & } to prepare its food by cutting — It must
Chermes. } penetrate the substance and suck its juices;
they prey in this manner on the blood of animals as well as on vegetable juices witness the bed bug (Cimex lectularius)
see Scorpion

From this difference in the mouth alone Fabricius divided the Linnean Hemiptera into two principal Sections, his ulonata and syngota the genera of the order. ulonata in the Linnean language (for Fabricius has divided them into a far greater number of genera than Linnaeus) are gryllus blatta mantis and forsicula; the last being removed from the Coleopterous order in which Linnaeus places it — The Fabrician order. syngota contains fulgora, cicada, cimex nepa notonecta aphis thrips coccus, and chermes.

Olivier divides the Linnaean Hemiptera into two orders allowing one to retain the Linnaean name and assigning to the other that of orthoptera. This subdivision was adopted by Lamarck

and continued by Latreille and other late writers and may be considered in a great degree established

The true Hemiptera are those which have the wing cases half the way down coriaceous and in which the extremity of one wing case folds over the other and the mouth furnished with a sheath or trunk by the introduction of which into the flesh of animals and plants it derives its aliments. The wing cases of the Orthoptera are closed longitudinally or horizontaly when the insect is at rest meeting at the suture, but not folding at the tips one over the other, and the armament of the mouth consists of two strong mandibles, two jaws, an upper lip and four feelers. There are other secondary characters attached to each which confirm the propriety of esteeming the two orders distinct.

Lin Genus Cicada according to the Linnaean arrangement has the following characters

Antennae inflected, or bent inwards under the breast, antennae setaceous; the 4 wings membranaceous and deflected; legs in most formed for leaping, as in the maniferae for walking or creeping Linnaeus divided them into Sections modern writers constitute them so many different genera.

The foliaceae family of the Linnaean Cicadae, consist of those in which the thorax is compressed, membranaceous & larger than the body

The cruciatae, those which have the Thorax armed on each side with a horn or spine.

The maniferae, those which have the feet formed for creeping or walking instead of leaping.

The saltatrae, those having the posterior feet formed for leaping

The defexae those whose wings are wrapped round the sides of the body.

Cimex Linnaeus defines the genus cimex in the following manner. Rostrum or snout inflected; antennae longer than the Thorax; wings folded together cross wise; the wing cases coriaceous on the upper part; back flat; thorax marginated; legs formed for running; These he divides into many sections.

The first apteri. Those without wings as in the common housebug.

Scutellati those in which the escutcheon is extended so far as to cover the abdomen and wings —

Coleoptrati; have the wing cases entirely coriaceous instead of having the extremity membranaceous as in the other cimices.

Membranacei. have on the contrary, the wing cases entirely membranaceous, and are much depressed —

Spinosi, those which have the thorax armed each side with a spine.

Rotundati are of an oval form without spines on the thorax.

Setiformes, have the antennae setaceous towards the tip

Oblongi, are of an oblong form

Spinipedes. have the thighs armed with spines; and the

Linearer. have the body of a linear form —

Fabricius constitutes of the Linnaean cimices seven distinct Genera viz. Acanthia, Cimex. Coreus. Lygaeus, Mōris Gerris, and Reduvius.

and continued by Latreille) to the latter insects.

Coccus. The insects of this tribe have the mouth seated in the breast, antennae filiform, and the posterior part of the abdomen furnished with bristles; the male has two erect wings, and is destitute of poisers and the female is apterous, or without wings.

The cocci are a prolific race, and like the aphides are the pest of plants. They are remarkably discriminate in the choice of their food, almost every species being peculiar to some particular plant and this so constantly, that the far greater number of the cocci bear the name of the individual vegitable on which they respectively subsist. The dissimilarity prevailing between the two sexes is very striking not only in their form but also in their manner of life. The male is furnished with wings and is naturally very active; the female is without wings and has scarcely the appearance of animation. The females fix themselves to the branches, leaves and sometimes roots of plants where they remain immoveable, and are visited by the males; in the state of apparent torpor, they produce their young and perish. As the cocci live on the juice of plants which they obtain by perforating the cortex or cuticle, with their probosces they are very injurious to plants more particularly the more tender exotic kinds raised in stoves and green houses. The females when affixed to plants sometimes loose the very form and appearance of insects; their bodies swell, their skin stretches, and becomes smooth, and the segments or annulations of the abdomen entirely disappear. In this state the so much resemble certain kinds of excrescences or galls found on the leaves and branches of plants as to be in general mistaken for such. When the insect assumes this last appearance its dissolution is fast approaching and after its death, the abdomen still serves as a covering under which the eggs of the future brood are concealed and protected. Others of the coccus genus, although they adhere in the same manner to the leaves or branches of plants retain their true form of the insect till the young are produced from the egg. The female of most species have a quantity of fine cotton in which the lower part of the abdomen is concealed, and which serves as a nest for the eggs when deposited by the parent insect —

Nepa, Water Scorpion. the generic character is. Snout inflected, antennae short; it has four wings, folding crosswise, coriaceous on the upper part; the fore legs are chelifform, the other four are formed for walking. There are fourteen species included in this genus, which are divided into sections, according as they have no lip, or a short lip or one that is projecting and round.

The insects of this genus belong to the water and their eggs are likewise deposited in waters; they are of an oblong shape and generally stuck and concealed in the stalk of a bullrush. When they arrive at their full size and become complete insects, they are sometimes nearly an inch in length and nearly half as broad. The antennae appear in the usual place of the fore legs; they are armed with a forceps adapted to the purposes, for which they are applied. The nepas, are of all animals the most tyrannical; like wolves, among a flock of harmless sheep, they destroy a vast number more than their wants require. It has been observed, that if a nepa be placed in a baron of water with thirty or forty worms of the libellulae kind, each as large as itself, it will destroy them all in a very small space of time, getting on their backs, and piercing them through with their rostrum. The animals though they live upon the water by day, are capable of taking long flights from one pool of stagnant water to another, in quest of food; this they are probably obliged to attempt from the fierceness of their manners by which the insects in their vicinity must soon be destroyed. The nepas, so formidable to the creatures, are themselves, nevertheless, haunted by a little pediculus, which, perhaps, abundantly avenges the injuries that the water scorpion so frequently commits upon others —

Sci A antennae palmate, and without lip.

B antennae palmate, lip very short and widely emarginate.

C lip projecting and rounded —

Gryllus an extensive genus of the Hemiptera order in the Linnaean System: a genus of Ulonata of Fabricius, and one of the Orthoptera of Lamark and other late writers

The Linnaean characters of the Gryllus tribe are: head inflected and armed with jaws; feelers filiform; antennae setaceous or filiform; wings four, deflected and convoluted, the lower ones plaited posterior legs formed for leaping; the claws double on all the feet

The aeridiae have the head conic, and longer than the thorax the antennae ensiform or somewhat resembling a sword.

The bullatae are distinguished by a kind of crest or elevation on the thorax, and the size as well as structure of the antennae which are shorter than the thorax, and filiform.

The achetae are furnished with two bristles above the extremity of the abdomen.

Teltegoniae, in which the extremity of the abdomen in the females are distinguished by a kind of tube through which they deposit their eggs in the ground; the antennae in both sexes setaceous.

Locustae have the tail simple or without bristles, as in the achetae, or the tube that terminates the tail of the females in the Teltegoniae; the antennae of this family are filiform.

Linnaean 5 Sections or subdivisions

Acheta

Antennae setaceous, and composed of many joints; feelers unequal and filiform; lip four cleft; head small thorax rounded; no scutel; body thick and cylindrical, the tail with two bristles; legs short and thick; the anterior feet generally formed for digging.

Locusta

antennae setaceous, and of many joints; feelers unequal, and filiform; jaw tridentated at the tip; lip bifid; head large and ovate; no scutel; wing cases compressed and membraneous; abdomen elongated and compressed, that of the male terminated in 4 short blyts, the female with an ensiform tube; posterior legs long and formed for leaping; tarsi of 4 joints.

Gryllus

antennae filiform; feelers equal and filiform; lip rounded and bifid, head vertical; thorax flat above, and sometimes carinated the sides deflected; body elongated; no scutel wing cases the length of the abdomen and membranaceous; posterior legs long & formed for leaping; the tarsi of 3 joints.

Notonecta (Boat Fly) the generic character is as follows; snout inflected; antennae shorter than the thorax; it has four wings, folded crosswise; on the upper half it is coriaceous; the hind legs are hairy and formed for swimming.

The Insects of this genus like those of the Nepa live in stagnant waters, and prey on aquatic animalculæ; the larvae and pupae are six footed and active; the former have the rudiments of wings, the others have none. There are seventeen species, arranged in two sections viz

A lip elongated and conic.

B Sheath conic spinous at the Side.

In the former division there are ——— this been specie in the latter only four. which comprize the Sigara of Fabricius.

The insects of this Genus obtained the name of Notonectae from the singular manner in which they swim on the back presenting the belly part uppermost. This situation seems admirably adapted to the manner which the creature adopts in feeding, which is on the under sides of plants that grow on the surface of the water; for the animal by having its mouth thus turned upward, is capable of taking its food with great convenience; its motions are very nimble, diving down at the instant of alarm, and rising again to the surface when the danger is past, the two hind legs serving for paddles ———

Macrocephalus a genus of the Hemiptera order

(compounded of μακρος, great or long, and κεφαλη, head)

The generic character is that it has an inflected snout; the sheath is one-valved, three jointed, and furnished with three bristles; it has neither jaws feelers nor lip; the antennae are projecting, very short, submoniliform, clavate; the head is oblong, cylindrical above; the scutel, which is as long as the abdomen, is depressed and membranaceous. There is but a single Species, viz

Cimicoides, which is found in North America, and is rather less than the cimex crosus; the body is of a ferruginous grey; the scutel is of a pale ash color with a yellow spot; the under wings are purplish violet, and the fore shanks are thickened

Blatta Cockroach The head is inflected; antennae setaceous; feelers unequal, and filiform; wing cases and wings smooth, the former somewhat coriaceous; thorax flattish, orbicular, and margined; legs formed for running; abdomen terminating in two articulated appendages above the tail.

They are a troublesome pestiferous offensive race of insects; see the article Blatta. Rees Cyclop.

All the known species of Cock-Roaches whether in the larva pupa or perfect winged state, secrete themselves in the day time and wander about during the night in search of food — In allusion to this circumstance they are called lucifugae, insects that shun the light

Except in being completely destitute of wings and wing cases the larva resemble the perfect insect, and in the pupa state nothing more than the rudiments of the wings are perceptible. In the dark they are remarkably active and brisk in all their motions, and on the least disturbance or the return of light retreat again to their lurking places with timidity and precipitation. They amply skilfly, but they seldom use their wings for this purpose; even when most closely pursued they are known to trust rather to their legs with which they are able to run with no small celerity.

The fumes of charcoal, we are told on any be employed with success in destroying these unwelcome inmates —

These noxious creatures enter closets trunks &c and commit various depredations on the furniture devour provisions of every kind, tear or gnaw holes in clothes torment the inhabitants with their bite and otherwise do considerable injury they have a most offensive smell are the horror of delicate women & the terror of children

The common species eat almost any provision preferring however bread meal sugar and stale meat —

Aphies an interesting and extensive genus in the Linnaean System
Lin. defines the generic characters thus. beak inflected,
sheath of 5 articulations, with a single bristle; antennae
setaceous, and longer than the thorax: either four erect
wings, or none; feet formed for walking; posterior part of
the abdomen usually furnished with two little horns.
Geoffroy says the aphides have two beaks, one of which
is seated in the breast — the other in the head; — this
last extends to, and is laid on the base of the pectoral
one; and serves as that unites in agines, to convey to
head a part of that nourishment which the insect
takes, or sucks in, by means of the pectoral beak —
see a long article in Rees —

Order III

Lepidoptera

From λεπις, a scale and πτερον a wing, in the Linnaean System an order of Insects, with four wings intricated with scales: in the mouth is contained a spiral tongue, and the body is hairy. This Order comprehends three Genera viz Papilio or Butterfly. The Sphinx, and the Phalaena or Moth; and each genus includes a number of Species.

Arrangement of Papilios by Wm Jones.

Equites have the upper wings longer from the posterior angle to the point than to the base, and the antennae often filiform (Lin

Trochilus, Lively colours, Nerves dark colour,

This is corrected by saying: The upper wings are longer from the posterior angle to the point than to the base, occasioned by having 4 nerves instead of 3 visible in every other family. The palpi frequently only a brush; wader wings, with a connecting nerve in the center — and without an abdominal groove.

Heliconii Wings narrow, entire, often naked, or deprived of scales, the upper wings long, the inferior short. Lin.

To these chabacters is added, that the upper wings have "a connecting nerve in the center, very slightly grooved to admit the abdomen which is in general long, as are also the antennae"

Danai. Wings entire, Linn. Addition, the under with a connecting nerve in the center, and a deep abdominal groove. palpi projecting

Nymphales Wings denticulated, Linn. Addition. the under without a connecting nerve in the center, and with a deep abdominal groove, palpi projected.

Plebeii. Small, rurales; spots on the wings obscure Linn. Addition thorax and abdomen slender; under wings without a connecting nerve; antennae clubbed. and these are divided into two sections, those with long, weak flexible tails; and those without tails and having the wings entire — Plebeii urbicolae spots on the wings for the most part transparent" Linn. These last Mr Jones divides into three families, according to the following characters.

* Thorax and abdomen short, thick & broad; under wings without a connecting nerve; antennae uncinated, or crooked at the extremity.

** With upper wings pointed at the extremity, and long in proportion to their width —

*** Upper wings less extended, and together with their under wings more rotund; their margins entire: There still remain some papiliones; which do not rank with any division above mentioned there are generally of a large size, without an abdominal groove, have no connecting nerve; their antennae generally accuminated; and the veins of both upper and under wings extending from their root to the extremity nearly in straight lines. Mr Jones, constitutes these a new family. under the name of Romani.

Order III Lepidoptera

G. Papilio

G. Phalaena

Family Bombyx

G Sphinx.

Order IV

Neuroptera

The fourth order of Insects according to the Linnaean System, so called from the words νευρον and πτερον. signifying nerve-winged because the Insects of this order are remarkable for the nerved or reticulated appearance of their wings; the fibres running into ramifications and decussations over the whole surface. This order is well exemplified in the Libellulae, in which the characteristic of the order is very conspicuous — The wings are always four in number — This order includes seven Genera.

- Ephemera
- Hemerobius
- Libellula
- Myrmeleon
- Panorpa
- Phryganea
- Raphidia —

The Insects of this order are chiefly aquatic residing in the waters as catterpillar; and flying about their surfaces in the perfect state —

Panorpa. The generic characters are, mouth lengthened into a cylindrical horny proboscis; feelers four, nearly unequal; stemmata three; antennae filiform, longer than the thorax; tail of the male armed with a chelate appendage, but in the female it is unarmed.

There are nine species, two of which are described as being found in North America viz

Scorpio. Wings equal, black spotted with white body dusky found in different parts of N. A.

Fasciata. The wings of this likewise are equal, yellowish with black dots and bands —. N A

Raphidia Generic character as follows; Mouth with a curved toothed, horny mandible; the thorax is long and cylindrical; it has three stemmata; the wings are deflexed; the antennae filiform, as long as the thorax; the anterior part is elongated and cylindrical: it has four feelers, which are short and filiform; the tail of the female is terminated by a large recurved bristle.

There are but two species both inhabitants of S. Europe, Ophiopsis, and Notata.

Libellula Dragon fly. the character of which according to Gmelin reduced to the arrangement of the "System Naturae" consists in the mouth armed with jaws more than two in number; lip bifid; antennae very thin, filiform and shorter than the thorax; wings expanded; tail (of the male insect) furnished with a forked process.

In this genus the antennae are very short, being merely a pair of small hairs; the wings large and spreading, and the body lengthened.

The larvae inhabit stagnant waters are six footed and active, furnished with an articulated projecting mouth and prey rapaciously on the aquatic insects & larvae. the pupa resembles the larvae and has beneath the rudiments of wings.

The species are divided into Sections A & B.

Section A. Wings expanded when at rest. The insects of this division are subdivided into

α. dorsal division of the lip very minute;

β divisions of the lip equal; constituting the tribe Eshna of Fabricius.

Section B. Wings erect when at rest; eyes distinct; outer division of the lip bifid. The tribe Agrion of Fabricius.

Phryganea The generic character is, mouthe with a short horny curved madible; four feelers; three stemmata; the antennae are setaceous, longer than the thorax; wings equal, incumbent, the lower ones folded. There are 55 species divided into 2 Sections. The genus Phryganea comprises of insects, which, in point of habit or general appearance, bear a considerable resemblance to some of the Phalaenae, which see and particularly to those belonging to the division entitled Tineae. They may be distinguished from moths by their feelers, as well as by the stemmata situated at the top of the head. The Phryganeae proceed from six-footed aquatic larvae of a lengthened shape residing in tubular cases, which they form by agglutinating various fragments of vegetable substances particles of gravel &c These cases are lined within by a tissue of silken fibres, and are open at each extremity. The included larvae, when feeding, protrude the head and forepart of the body, creeping along the bottom of the waters which they inhabit by means of six short and slender legs; on the upper part of the back, in most species is situated an upright papilla or process, serving as a kind of prop. or stay, preventing the case from slipping too forward during the time the animal is feeding. The perfect insects are seen in a summers evening, floating in the air in large masses and are eagerly devoured by swallows. The Phryganeae are easily distinguished from the smaller moths: by their wanting the spiral tongue

A Tail with two truncate bristles.

B Tail without bristles.

The larvae of the Phryganeae in general feed not only on the smaller water insects but on the spawn of fishes and even on the young fry itself. * when arrived at its full growth it fastens the case or tube to the stem of some water plant, or other convenient substance, in such a manner as to project a little above the surface of the water, and casts its skin changes to a chrysalis of a lengthened shape, and displaying the immature limbs of the future phryganea which in the space of a fortnight emerges from its confinement

I. Grandis

Panorpa, the generic character is, mouth lengthened into a cylindrical horny proboscis; feelers four, nearly equal: stemmata three; antennae filiform, longer than the thorax; tail of the male armed with a chelate appendage; but in the female it is unarmed. There are 9 species.

*P communis. * It is a longish bodied fly. of a moderate size with 4 transparent wings elegantly variegated with deep brown spots; the tail of the male insect, which is generally carried in an upright position is furnished with a forceps, somewhat in the shape of a lobsters' claw.

Myrmeleon, Lion Ant; the generic characters is, mouth furnished with jaws; teeth two; feelers four, elongated; stemmata none; antennae elevated; of the length of the thorax; wings deflected; tail of the male furnished with a forceps, consisting of two straightest filaments. This genus includes 16 species seperate in two divisions

A Hind feelers longer; jaw one toothed; lip membranous, square, truncate, emarginate.

B Feelers nearly equal; jaw ciliate; lip horny, rounded, entire ——

Ephemera This genus has the mouth destitute of mandibles; feelers four, very short, and filiform; jaws short, membranaceous cylindrical and connected to the lip; antennae short and subulate; stemmata too large above the eyes; eyes erect; the lower smaller; tail terminating in bristles.

The ephemerae are proverbially a race of beings destined to enjoy the functions of life for a much shorter period than any other animals. This is a popular opinion, and in a partial view of their history, not altogether incorrect; but it must be understood only of the late or winged state, after attaining which they exist but for a few hours. The duration of this period varies in different species. It is devoted solely to the pleasures of fulfilling the ordinary purpose of nature, the propagation of their kind; in the accomplishment of which the ephemerae may be observed in myriads, during the summer season, sporting on the wing just above the surface of the water — In the larval and pupa stated the ephemerae live one or two years; and some species, it is believed live even three years from the time of hatching from the egg to the before they arrive at the perfect form. The larvae are found in the water wherein they constantly reside and are the favorite food of fishes. They are active furnished with six legs, a tail, six lateral fins or gills, and prey on smaller insects. The pupae like the larvae, are carnivorous and resemble the former state, except in having the rudiments of the wings apparent. The ephemerae are so abundant in some countries, that they are used for the purpose of manure, the species vulgata especially. This is the common practice with the husbandmen in Carniola. The season of their appearance in such multitudes continues however only for about three days annually. The ephemerae are arranged in two sections according to the number of bristles at the extremity of the tail

* Tail with 3 hairs or bristles.
** Tail with 2 do " do.

Hemerobius The mouth is armed with a short horny mandible the jaws cylindrical straight and cleft; feelers four, unequal, and filiform; stemmata generally none; wings deflected and not folded; antennae setaceous, projecting and longer than the thorax, which is convex.

Fabricius divides the Linn genus Hemerobii into two genera. Hemerobia and Semblis; and by some late writers they are again seperated into a greater number, as Hemerobius Osmylus Corydalis, Chaulioides and Sialis. The true Hemerobius has no distinct stemmata; and this in addition to the general character of the Hemerobini appears very characteristic. This genus is well exemplified in the Linn speciel Hemerobius perla. The Fabrician Hemerobius maculatus, a speecies in which the stemmata are very distinct, Latreille calls Osmylus. In Corydalis (Hemerob. Cornutus of Fabricius) the wings rest horizontally; the antennae are simple; and the mandibles very long, and advance forward. The wings likewise rest in a horizontal position in Chaulioides, but in this the antennae are pectinated instead of simple, and the mandibles are neither very long, nor advanced forward; and lastly, in Sialis the wings, when at rest, are disposed in a roof like form, the wings being deflected, expanding a little beneath, and meeting together in a longitudinal line at the dorsal suture; the antennae are simple, and the last joint but one of the feet bilobate. Shaeffer had long before observed that in the genus Hemerobius the abdomen grows slender toward its extremity, that the wings are in some subjets incumbent, and in others deflected, and the feet composed of five joints.

Many of the insects referred to the above mentioned tribes occur in marshy places near standing pools of water, and sometimes in woods, or, more frequently in fields and gardens.

These insects have a very remarkable and unpleasant smell, as we find in the species Perla a kind of Hemerobius called in England the "Thunderfly," from the powerful scent it emits, and as it is vulgarly supposed, at the approach of a thunder storm. The term of their existance is very short, and in every state of life they prey with unceasing avidity on plant lice, for which reason they are beneficial to horticulture; they also subsist on other insects, and not unfrequently devour each other.

The larvae are generally ovate and hairy, and are furnished with six feet; the pupa mostly folliculate. The eggs are deposited each upon a distinct gumming pedicle, in clusters upon the leaves of plants.

Order V.
Hymenoptera

The order instituted by Linnaeus for the reception of those Insects which have four membranaceous wings, and the abdomen of the female armed with a sting.

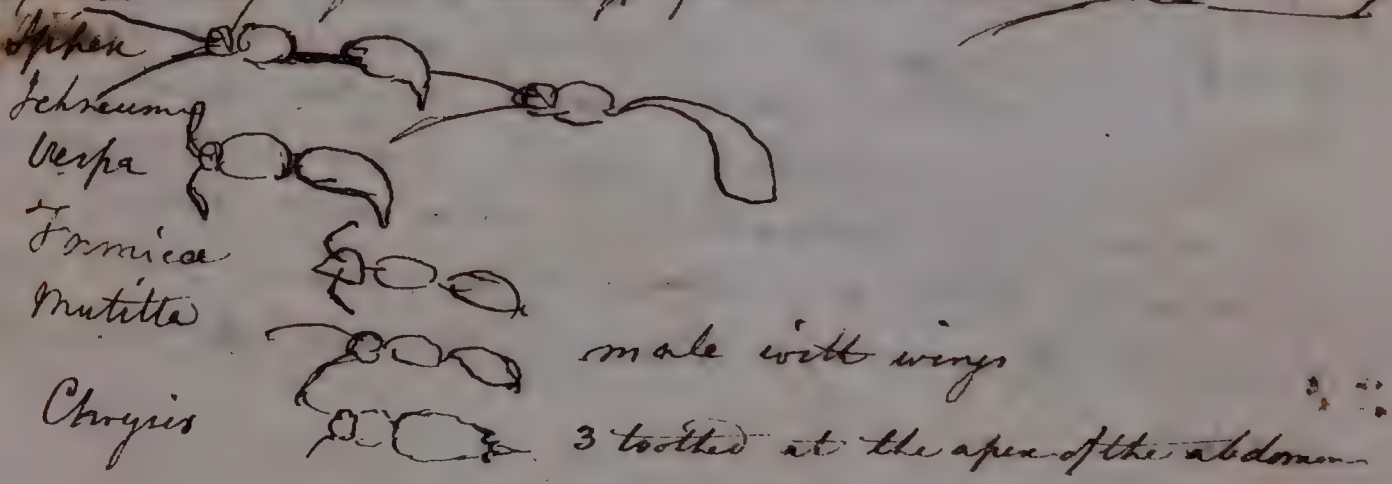
The genera are (gall fly) Cynips, Tenthredo, Sirex Ichneumon, Sphex, Asilus Asilus, Scolia, Thynnus Leucopsis, Tiphia Chalcis, Chrysis, Vespa Apis Formica, and Mutilla

Apis a genus in the Linnaen System & thus defined in his Systema Naturae by Gmelin; mouth horny; jaws and lip membranaceous at the apex; tongue inflected; palpi four unequal and filiform; antennae filiform, and short; wings flat; sting of the females & neuters acute and concealed. the species are numerous see the article Apis. Rees Cyclop. The whole of the family there refered to are distinguished by a five cleft tongue, and very short palpi; and are with few exceptions strictly apes of the Fabrician System (Ent Sys) Also for the character of his Genus. Apis is, Os linqua inflexa quinquefida palpi brevissimi; antennae filiformes; and he includes nearly all the same species as Gmelin.

see the long article in Rees under Apis—

Tenthredo look like bees some have feathered antennae all 3 stemmed

Sirex body equal thickness from the thorax



Chrysis (golden-fly) possesses the following characters – Mouth horny, projecting; jaws advanced, elongated, horny, linear, with a single tooth at the tip membranaceous and acute; lip tongue-shaped, linear, and emarginate at the tip; no tongue. Palpi or feelers four, advanced, unequal, and filiform. Antennæ short and filiform, consisting of 12 (sometimes 13) joints, the first of which is longest, and usually situated near the mouth. Body shining, glossy, and partaking of a golden colour in general. Abdomen arched, and concave, sometimes flattish beneath, with a scale on each side. Tail most commonly dentated; sting somewhat ~~exserted~~ exserted. Wings flat.

The insects of this tribe or genus obtained the name of Chrysis from the extreme brilliancy of their colours, which in the greater number of species emulate the lustre of gold, the ruby, sapphire, and other precious gems. Few of this genus exceed the size of the common housefly (musca domestica) and many are still smaller than that diminutive insect, which renders them pleasing and convenient objects for microscopical investigation. They are very lively in the sunshine, about the middle of the day, hover on the wing in a manner similar to the bee, and if disturbed fly swiftly. During the warmer summer months they are frequently observed among fruit trees, and especially preferring those which are raised against walls in a southern aspect: they occur likewise against the trunks of decayed trees on the side most exposed to the sun and sometimes among flowers. These brilliant little insects will not allow themselves to be captured with impunity; they bite hard, and the sting of the female is a formidable weapon compared with the size of the insect, and capable of inflicting at least a painful puncture, if incautiously taken in the hand.

The larvae of these insects have hitherto escaped the research of naturalists, or have not certainly been ascertained with any degree of precision; it is only supposed by analogy, their metamorphoses resemble wasps.

Sirex or Tailed Wasp. The Generic character is, Mouth with a thick, horny, truncate, short, denticulate mandible; four feelers, the hind ones longer, and thicker upwards; antennae filiform, of more than 20 articulations; the sting is exserted, serate and stiff; the abdomen is sessile, terminating in a point; wings lanceolate, incumbent, the lowth ones shorter.

The larvae of this Genus are six footed, soft cylindrical, the head rounded; they perforate wood, and frequently eat their way into the bowels of other insects, and their larvae, living upon them until they have utterly consumed their entrails; the pupa is follicular; the perfect insect lives on the nectar of flowers. There are about 26 species —

Thynnus. generic characters. mouth horny, mandible bent, with a short jaw, straight; lip larger than the jaws, with the apex membranaceous; trifid; the intermediate fringes emarginate; the tongue very short or folded; the 4 palpi filiform and equal; antennae filiform. Gmelin enumerates only 3 species viz.

Dentatus, Emarginatus & Integer all inhabiting New Holland —

Mutilla; the generic character is, antennae filiform; four, of which the articulations are obconic, seated on the tip of the lip; the jaw is membranaceous at the tip; the lip is projecting obconic; in most species there are wings; the body is pubescent; the thorax retuse behind; the sting is pungent and concealed; there are near 40 species —

Sepheia (Gmelins System of Linnaeus, Generic Characters are that mouth has a membranaceous roundish jaw, mandibles arched — and acute; a short tridentated lip and no tongue; feelers are 4. filiform & unequal, stretched out in the middle of the lip; and the antennae unfiliform and arched —

Vespa Generic Characters -: mouth horny: jaw compressed, without proboscis; palpi or feelers 4, unequal, filiform; the antennae filiform, the first joint being longer and cylindric; eyes lunated; body smooth, sting concealed, upper wings plicated — a very extensive genus comprehended in Gmelins Syst. of Linnaeus, 659 species. but in its history and arrangement there is much confusion — They are remarkable like the Apis or bee, for the dexterity with which they form their nests — which in those of many species is of considerable size —

Formica the essential characters are according to Linnaeus
"a little upright scale between the thorax and the abdomen;
males and females furnished with wings, and the neuters apterous
or wingless.

Geoffroy proposes in addition to the above character, to distinguish
the insects of this genus from the structure of the antennae,
these, as he observes, being in the true formicae, elbowed or
broken into an angle in the middle, and having the first
joint longer in proportion than the others; the stemmata
or false eyes three in number, and the abdomen joined to
the thorax by means of a short pedicle, or stalk.

This character is further improved by Schaeffer who
describes the Formicae as having the mouth armed with
jaws, the wings incumbent, and the tarsi composed of 5
articulations.

Fabricius describes the genus with more precision —
from the structure of the organs or parts of the mouth;
according to this author, the feelers are 4 in number,
unequal, with cylindrical joints placed at the tip of the
lip, which is cylindrical, and almost membranaceous,
and the antennae filiform.

In the Gmelinian Edition of the Systema Naturae,
the Fabrician definition is united with that before
assigned to the genus Formica by Linnaeus.

Lamarck explains the genus somewhat differently,
and by the adoption of his character several of the
Linnaean and Fabrician Formicae are excluded. This
writer lays down the essential character as follows;
antennae filiform and broken, the first joint very long:
feelers unequal, the anterior pair longer; mandibles
strong; tongue short, concave and truncated. To this is
added, as a secondary character, that the abdomen is
attached to the corselet by a pedicle, bearing a small scale
or vertical knob; and that of each species there are three
kinds, males, females, and neuters, which latter are
without wings.

See the long article in Rees' Cyclop.

Sphex Generic character is as follows. The mouth is formed with an entire jaw; the mandibles are horny, incurved, and toothed; the lip is horny and membranaceous at the tip; it has 4 feelers; the antennae have about ten articulations; the wings of each sex are plane, incumbent and not folded; the sting is pungent, and concealed within the abdomen. The insects of this genus are said to be the most savage and rapacious of this class of beings; they attack whatever comes in their way, and by means of a poisonous sting, overcome and devour others far beyond their own size. Those of division B, hereafter to be described, are found chiefly on umbellate plants; the larvae are without feet, soft, and inhabit the body of some insect on whose juices they exist; the pupa has rudiments of wings.

"As these insects" says Dr Shaw "of the genus Ichneumon deposit their eggs in the bodies of other living insects, so those of the genus Sphex deposit theirs in dead ones, in order that the young larvae, when hatched, may find their proper food." There are more than 100 species which are seperated into divisions —

Species A Antennae setaceous; lip entire; and no tongue

do. B Antennae filiform; lip emarginate; with a bristle on each side; the tongue is inflected and trifid.

Of this section there are two subdivisions; the one has a petiolated abdomen; that of the other is sessile.

a abdomen petiolate.

b abdomen sessile.

Ichneumon or tailed wasp. Character Mouth with jaws, without tongue: antennae with more than 30 joints: abdomen in most species foot stalked; pincer exserted, with a cylindrical bivalve sheath. The animals of this genus deposite their eggs in the bodies of other living insects, and generally in those of caterpillars. Here they hatch, and the young larvae, resembling small white maggots, nourish themselves with the juices of the unfortunate animal, and at length the young brood of ichneumon larvae creep out by perforating the skin in various places, and each spinning itself up in a small oval silk case changes into Chrysalis, the whole number forming a group. on the shrivelled body of the caterpillar which had afforded them nourishment, and after a certain period emerge in the state of complete ichneumons.

Tenthredo Generic Characters — the mouth with a horny, arcuated mandible, within dentated — a straight jaw, obtuse at the apex; a cylindric, trifid lip, with 4 unequal filiform feelers; the wings flat, and turned a slightly inflated; the pincers consisting of two serrated, scarcely prominent laminae; and the scutellum with two distinct granules —

The larvae of this genus resemble those of the order Lepidoptera, or real caterpillars; but are distinguished from them by their more numerous feet, which are never fewer than 16* exclusive of the 3 first or thoracic pairs. When disturbed or handled they usually roll themselves into a flat spiral. They feed, like the caterpillars of the Lepidoptera on the leaves of plants; and undergo their chrysalis state in a strong gummy case, or envelopement, prepared in autumn, out of which in the ensuing Spring, emerges the complete insect.

The Tenthredines form a numerous genus and are divided into tribes or sections according to the form of the antennae Gmelin reckons 143 species.

Tribus Sectiones A Antennae clavated.
B ditto, exarticulate, the outer ones thicker —
C ditto, pectinated.
D do pennated
E do filiform, with from 7 to 9 joints
F do setaceous, many joints.
G Of doubtful order ——

* Sed Quare de hoc? the larvae of the Tenthredo Pini & Salix have but 6 false feet or supports and 6 real. ~~feet~~ or thoracic feet
+ and a small & large knot like spot on the rib of the wing. the abdomen too is abrupt or truncated & bend under — Cist
the abdomen generally is composed of numerous segments Cist —

Cynips a genus of Hymenoptera of Linn. & of Piezata of Fab. Mouth furnished with a short unidentated jaw, mandibles vaulted, horny and cleft, lip entire; feelers 4 short unequal, and capitated; antennae moniliform; sting spiral, and often concealed within the body —

The Fabrician character consists in having 4 unequal and somewhat capitated feelers — the lip horny and entire, and the antennae moniliform —

Many of the excrescences found on the leaves, stems, branches, and roots of trees, are occasioned by the punctures of these insects; their larvae are soft, without feet, of a cylindrical form, and inhabit within the gall, where they subsist on the juices of the tree; the pupa differs from the compleat insect only in being destitute of wings, but the rudiments of the wings are perceptible even in this state of the creature — Most of the species appear to be peculiar to certain plants; the oak and willow in particular are much infested with insects of this kind —

Chalcis a genus of Hymenoptera established by Fabricius and included by Gmelin between the Tiphia & Chrysis.

This genus consists with the exception of one or two species of insects discovered since the time of Linnaeus, and which cannot with propriety be reduced to any of the Linnaean genera It approaches both to the Sphex and Vespa tribe

The Fabrician character of the genus Chalcis is,

Palpi quatuor aequales: Antennae breves, cylindricae, fere fusiformes; articulo primo subcrassiori. Fab. Ent. Syst.

The following generic Character after the Linnaean method is proposed for Chalcis in the 11th Vol of the Natural History of British Insects — Mouth with a horny compressed, and sometimes elongated jaw; feelers 4, equal; antennae cylindrical, fusiform, first joint rather thickest; thorax gibbous, lengthened behind, and obtuse; abdomen small, rounded & subpetiolate posterior thighs thickish —

Scolia Generic Character — Mouth with a curved sharp mandible, crenate within; jaw compressed, projecting, entire, and horny; tongue inflected and trifid, very short; the lip is projecting membranaceous at the tip, and entire; the feelers are 4. equal, short and filiform, situated in the middle of the lip; antennae thick and filiform, the first joint longer than the rest. There are 39 species described in the Systema Naturae.

Sinopsis The mouth is horny with short jaws; the mandible thick and three toothed at the tip; the lip which is longer than the jaw, is membranaceous, and emarginate at the tip; it has 4 feelers, short, equal, and filiform: antennae short, and clavate; thorax with a long lanceolate scale beneath; wings folded; sting reflexed and concealed in a groove of the abdomen, There are 14 species all foreign insects — three found in the south of Europe — and one in Franquebar

formed out of the Genus Sphex by Kirby

Amophila a genus proposed by Rev. W. Kirby the essential character is beak conic, inflected, concealing a bifid, retractile, tubular tongue Jaws forcipated, three teeth at the tip: antennae filiform in either sex with about 14 articulations: eyes oval; wings flat; sting pungent: and concealed within the abdomen. The Linnean character of the Sphex genus is not strictly applicable to those insects Mr. Kirby has selected for his new genus, nor to many other exotic species: for the mouth of the Linnean Spheges has no tongue. Gmelin has corrected this error by dividing the genus into families, the first has no tongue the second is furnished with one

Order VI

Diptera see back p75-7

Empis Asilus Musca Conops. Bombylius Hippobosca, Tipula — Tabanus. Oestrus — Culex.

Oestrus the Gadfly or Breeze — generic characters as follows the mouth has a simple aperture, and not exserted — it has two feelers, each having two articulations; it is orbicular at the tips, and seated in each side in a depression of the mouth — the antennae have 3 articulations, the last of which is subglobular, and furnished with a bristle on the fore part, placed in two hollows on the front ——

The face of this singular genus is broad and depressed — it is vesicular and glaucous and has been thought to bear some resemblance to the Ape kind. The different species are extremely troublesome and even destructive to horses sheep and other cattle deposiing their eggs in different parts of the body. and producing painful tumours and sometimes death. The larvae are without feet short thick soft and annulate and often furnished with small hooks — There are 12 Species (which see Ker article Oestrus) see also article Botts —

Order VI

Diptera —

The Sixth order in the Linnaean System. The Insects of this order are known by having two wings with a clavated poiser under each as in the common house fly (musca domestica) which is of this kind.

Musca (the Fly) generic character is as follows; mouth with a short exserted proboscis, and two equal lips; sucker furnished with bristles; feelers two, but very short and sometimes none at all; antennae generally short about 550 species are described by Gmelin; These are divided into two families viz

A. with two short feelers; and

B without any feelers; The latter however include only eleven species of the number mentioned above

These grand sections are again seperated into stil smaller divisions Thus the family A is divided into six sections and that of B into two ——

A — with two short feelers

§ α. sucker with a single bristle, without sheath; antennae short, clavate, furnished with lateral hair —

\+ Hair of the antennae feathered.

++ Hair of the antennae naked —

c sucker with a single bristle and univale sheath antennae seated on a common petiole; in this subsection there is but a single species.

d Sucker with three bristles, without sheath; feelers placed at the base of the sucker ——

e sucker with three bristles and a single valved sheath; antennae united at the base, and pointed at the tip —

f sucker with four bristles, without sheath; feelers placed at the base of the bristle ——

\+ antennae feathered —

++ antennae naked ——

B. The flies in this division are without feelers

α suckers with a single recurved bristle without a sheath; the antennae are inserted at the base of the proboscis

b. sucker with a single bristle, without a sheath; antennae approximate, with an ovate compressed club.

Empis The mouth is furnished with an inflected sucker and proboscis; sucker with a single valved sheath and three bristles; feelers short and filiform; antennae setaceous. These are carnivorous, and subsist on flies and other small insects, which they seize with their feet, and pierce with their rostrum, to suck the blood and juices of their body — Some of the species are found on flowers in the winged state. None of the larvae are known.

Asilus.

Order VII.

Aptera

From a without and πτερον wing the seventh and last order of Insects in the Linnaean System. The definition of this order is simply this: aptera, wings none; and the genera are divided into the three following Sections:

* Legs six; head distinct from the thorax; comprehending the Leptura, podura, Termes, Pediculus and Pulex genera.

** Legs from 8 to 14, exclusive; head and thorax united: comprehending the acarus, Hydrachne, Aranea, Phalangium, Scorpio Monoculus, and Oniscus

*** Legs numerous; head distinct from the thorax: comprehending the two last genera, Scolopendra and Julus.

It must, however, be observed, that this arrangement though preferable to that of Fabricius in some respects; is not entirely free from objection; for there are abundant instances of apterous insects which can only be referred to the other classes, unless we seperate the two sexes of many individual species, as we shall have occasion to notice in the articles Formica, Mutilla, and others hereafter. Bruniche in his System of Entomology has arranged every Insect wanting wings, under his apterous order without regarding those in which one sex has wings, and the other is destitute of them. Thus for example, the apterous aphis, the female coccus, the neuters of ants, and the apterous mutillae, are seperate from their own species, and arranged amongst insects that have no affinity with them; and to complete the disorder and confusion, the pupa of the gryllii creatures in a state yet imperfect, is included with the apterous order also.

No insect can be referred to the apterous order in the Linnaean System unless both sexes, when arrived at their last state of being, are destitute of wings: although the term apterous is used in a general manner, by entomologists, to signify any insect without wings, when complete, whether it be the females of those winged males that belong to the other orders, or not; and even for coleopterous and hemipterous Insects that have a hard shelly covering or elytra and have no wings under them. It is often used, by Linnaeus himself in this manner. as the following examples fully prove

"Aptera, a species of Blatta; It is apterous, brown and

and punctured; posterior margin of the abdominal segments and legs livid, wing cases ferruginous; shanks spinous Linn & Gmel.

Aptera a species of Cicada; apterous and black, wing cases abbreviated: shanks and antennae pale Linn & Gmel.

Apterous is also the specific name of various genera. viz Ptinus, Hister, Curculio Cimex &c

Scolopendra. The generic character is, antennae setaceous; feelers two, filiform and united between the jaws; lip toothed and cleft; body long, depressed, consisting of numerous transverse segments; the legs are numerous; there are as many on each side as there are segments of the body. There are thirteen species, scattered over different parts of the globe three of which are common to England.

In the Linnaean Latin language they have obtained the name of centipes, from the number of their feet or legs: one of the species has litterally an hundred legs on each side, for so numerous are the segments into which their bodies are divided.

Of this hideous race, some live beneath the bark of decayed leaves, or are found below stones and garden boxes; others inhabit fresh and salt waters; and they are all remarkable for the quickness of their motions; they all prey on other insects.

Scorpio: Scorpion. The generic character is, that it has 8 l
besides 2 chelae, or hands, seated on the forepart of the
head; the eyes are 8 in number; three of them are placed
on each side of the thorax, and two on the back; it has
two feelers, projecting cheliform; lip bifid and no antenn
the tail is long, jointed, and terminated by a sharp
crooked sting; on the underside, between the breast an
abdomen, are two instruments resembling a comb.
The insects of this tribe are all armed with a slight
pungent sting; none of them, however, are dangerous
except those in very hot climates; they prey upon
worms, spiders, flies &c; and even on one another;
the larva and pupae are 8 footed, nimble, and resemble
the perfect insect. There are 10 species all of which
are natives of warmer climates than our own —

Scorpio a species of Cercalia; also a species of Cerambyx which
see both —

Scorpion Water, Scorpio palustris a name given to a very remarkable
genus of water insects. See Nepa

Scorpion fly. a name given by Mouffet and other writers to a
kind of fly. remarkable for carrying the end of its tail turned
up in the form of the scorpions sting. Its distinguishing characters
are these; its rostrum, or trunk, is of a cylindric figure, and
of a horny structure; and its tail is furnished with a weapon
of the cheliform kind. There are two very beautiful
species, see the article Rees Cyclop —

Aranea, Spider, The mouth is furnished with short horny jaws, lip rounded at the apex; feelers two, incurved, jointed, very acute at the tip, clubbed, with the genetalia in the male; no antennae; eyes six or rarely eight; feet eight; anus furnished with papillae, or teats for spinning — L. Gmel. Linn. &c. see a long article in Rees —

Crustacea

Ordo Cancer

G. Pagurus . G. Gammarus G. Gammarellus.

Fabrician System

Apate a genus of Coleopterous insects in the Fab Syst (Ent Syst).
the characters of which is, feelers filiform; jaws, one tooth in
each; lip membranaceous and truncated; the antennae perfoliated.
This Genus includes some of the Linnaean Dermestes, as capucinus
and domesticus; bostrichus of Geoffroy and Olivier, as cornutus
and bimaculatus; and lignipeda of Pallas as terebans, and
cornuta.

Gmelin makes a division of the Linnaean Dermestes
in his Edition of the Systema Naturae, according to the numbe
of the teeth in the jaws, maxilla bifida, and maxilla
unidentata; the latter he calls apate, and it includes
several of the species described by Fabricius in his genus
of the same name —

Hydrachne a genus of the aptera established by Müller the characters of which as reduced by Gmelin to the arrangement of the "Syst Nat". consists in the head, thorax, and abdomen being united; the feelers jointed and two in number; the eyes either two, four, or six, and the legs eight.

Linnaeus Geoffroy and almost every author until late have confounded the Hydrachne with the acarees tribe while from their similarity of aspect, the globular form of the body, and the length of their feet, these insects were considered by general observers as no other than a race of spiders, to which the significant appellation of aquatic was given commonly annexed, because they inhabited watery places. and thus appear from their habits though not in form, to constitute a distinct family from the true or terrestrial spiders.

They prey on the larvae of . & the tipulae and monoculi. and the juice of decayed vegetable

* Section. Eyes two, body tailed.
** do. Eyes two, body marked with a fork
*** do Eyes two body glaborous.
**** do. Eyes four.
***** Eyes six.

see the article in Rees Cyd

Forficula agenus of the coleoptera order of Linnaeus distinguished by the following essential character; antennae setaceous; feelers equal and filiform; wing cases about half the length of the abdomen; wings folded up under the wing cases; tail armed with forceps. This is the earwig of English writers.

The forficulae can hardly be considered with propriety as appertaining to the coleopterous insects; and later writers seem so well assured of this, that few continue in this respect to follow the example of Linnaeus. Fabricius with more consistency, has placed them in his class ulonata with the Blattae, the mantes, phasmae and other analogous families; and hence we may conceive, had Fabricius been himself disposed to adopt the system proposed by Linnaeus, he would have placed the forficulae in the Hemiptera instead of the coleoptera order. There are still objections to this, and we cannot avoid approving in preference to either the suggestion of Latreille, that they constitute an intermediate order between the coleoptera and hemiptera. La Marck had previously constituted a new order for the reception of the forficulae blattae, and other insects of the same natural tribe, to which he gave the name orthoptera; yet he does not place it between the two orders before mentioned;— it stands in his arrangement between the coleoptera and neuroptera.

The two sexes of the forficulae differ a little in general form and also in the shape and bulk of the abdomen, as well as the forceps and the extremity of the abdomen. The female is distinguished by the superior size of the abdomen — The eggs are large white and glossy and the larvae when hatched considerable in proportion to the magnitude of the egg from whence they are excluded Few of the insect tribes evince more attention to their young than the females of the forficulae. In the first instance they are particularly careful to deposit their eggs in places of security, and are often seen sitting on them for hours together; and they are also known to regard the infant brood with tenderness, the young remaining in society with the parent some time after being produced from the egg The forficulae live in moist places, among plants or under rotten wood or stones; and are injurious in particular to the kitchen and flower gardens; as the ravages of the more frequent species, the common earwig sufficiently attest —

Diptera VI order see forward

~~Fabricius~~
Conops generic character — Mouth furnished with a projecting geniculate proboscis, and the antennae clavated and pointed at the end —

The insects of this genus are remarkably active and are found in gardens, where they subsist on the ~~nectareous~~ juices of flowers; their larvae are unknown. In the true Conops, the head is large and nearly hemispherical; the eyes large — and almost oval and the antennae formed of 3 articulations, the middle one of which is long and cylindrical, the last joint terminating in a little point.

The Genus Conops is divided in the Linnaean System into two families; the first of which includes those species which have the sheath of the sucker single valved, abbreviated, and inclosing a single bristle; the other those with the sheath consisting of two equal valves, and which is geniculated both at the base and in the middle — the latter are the myopae of Fabricius. In the Fab. supplement Ent Syst the Linnaean Conops subcoleoptrata is described under the new Genus Thereva.

Sect. 1.

Sect. 2. —

Tabanus Oxfly — generic characters — The mouth has a fleshy proboscis, terminated by two lips, and the rostrum is furnished with two awl shaped palpi placed on each side of, and parallel to, the proboscis; Gmelin in his Ed.^n of Linn. Syst. enumerates 38 species

The insects of this genus very much resemble those of Musca which see

Bombylius Generic Characters. Beak or sucker very long setaceous, straight and consisting of 2 unequal valves, within which 3 setaceous bristles are contained; feelers two short and hairy: antennae subulate, and connected at the base. Linn Gmel &c The antennae of the insects in this genus are short, and contain 3 articulations, the first of which is long, the second short, and the third or last conical, and terminating in a kind of appendage, almost forming a 4^th joint, as is to be observed with the aid of Glasses. Those who have carefully examined the structure of the trunk with the microscope affirm, that the number of valves or bristles concealed within the external bivalve sheath are 4 instead of 3, as Gmelin describes them. The antennae are inserted at the base of the trunk.

Insects of this Genus have the head comparatively of small size. of a form somewhat rotund, and almost wholly occupied with the eyes. The thorax large, the abdomen bulky. and rounded at the extremity as in the bee. Both the thorax and abdomen are hairy, or covered with down. The wings longer than the body and extended horizontally legs long and slender:

The size and rotundity of the body afford an excellent natural character by which this tribe of insect may be distinguished from those of the Genera Empis & Asilus, with which some naturalists have confounded them

The true Bombylius is an active lively tribe of insects that subsist entirely on the nectareous juices they extract from flowers, with the assistance of their long proboscis or trunk. They fly with much rapidity, making all the time a soft humming noise like that of the bee.

The insects of this tribe are found in the winged state in summer but their metamorphose is utterly unknown.

Tipula Generic Character

The mouth has a very short proboscis, membranaceous canaliculated on the back receiving a bristle; the haustellum short without a vagina; the feelers two incurved, equal, filiform longer than the head; the antennae are mostly filiform

The smaller species of this genus so much resemble gnats that the generality of authors have confounded the two genera and described these among the gnats

The long form of the body, the position of the wings, and the length and position of the legs; are the circumstances that make the resemblance between the Gnat & Tipulae; but the structure and organs of the head are alone a very different distinction

As the Tipulae differ from the Gnats in the figure of the mouth, and in being without a trunk — they differ as much from the other flies of that Character, by their resembling the Gnat in the shape of their body. They differ also in the conformation of the mouth, and its several parts and organs. The opening of the mouth is a slit extending itself from the forepart of the head toward the hinder part, and its lips cannot be called upper & lower, but they are lateral ones — When the body of the creature is pressed, this mouth opens and shews what seems to be a second pair of lips within these are more firmly closed than the others and resemble only certain duplications of the flesh — The exterior lips are cartilaginous and are furnished with short hairs; the interior are perfectly smooth and of a fleshy texture The head of the Tipula is of a long and slender figure — the lips are articulated at the extremity of this head, and on each side there stands on the upper part a sort of head.

Neither Mosquito.

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"It is well known that there are some insects for which no other nidus appears to have been provided by nature than the cavities and canals in the bodies of more perfect animals of these the oestrus is a common example; and of; and of the 6 species enumerated by Linnaeus three are hatched and nurtured in the stomach and rectum of the cow and horse and in the frontal and maxillary sinuses of the horse and sheep. The larvae of these flies are called Botts which see under that Head — In the human subject the oestrus has been also known to insinuate its eggs; and one of the most excruciating attacks of the head ache that has been recorded originated in a woman from the presence of two or three botts in the antrum of the cheek* (see a case by Dr Heysham Med. Communications vol I page 430 Various eruca, or catterpillars have been occasionally found in, and discharged from the sinuses (see Fernelius & Patholog. cap 7. Rolfinc de capit dolore &c) The larvae of the common house fly. and of the black beetle have also been inmates of the human body and occasionally been discharged from the [illegible]* (See a paper by Dr Bateman in the Edin. Med. & Surg. Journal for 1811. with the references there mentioned). In these cases &c &c see article Hemicrania ___

In case the maxillary sinus should be the seat of the disease, which the seat of the pain may lead us to presume that cavity may be pierced from the alveolum of the tooth, and its contents evacuated. In this way the botts were discharged, in the case detailed by Dr Heysham — see the article Hemicrania ___ "

Excruciating pain is often produced from small insects getting into the ears & eyes — in the former case we should advise pouring into the ear a little sweet oil in which the insects soon becomes drowned when by turning on the side of the affected ear. the dead insect comes out with the oil — In a case in which the patient was almost frantic with the pain occasioned by a small insect beating against the drum of the ear. the course above prescribed gave almost instantaneous & effectual relief When small insects get into the eyes we would recommend

J Cit

* We have several well authenticated cases where the scolopendra or centiped has been voided from the nose after driving the unfortunate sufferer almost frantic — see article Scolopendra Rees Cyclop-

Explanatory

Suture
dorsal -
hemelytrous
line (measurement of insects)
crenate ~~crenated~~
uncinated. (antennae) crooked at the extremity
~~truncated~~
annulated
spined.
serrated
accuminated
Scutel

Mr Maloet relates the history of a man, who for three years had a violent pain at the lower part of the forehead, near the root of the nose; at length he felt an itching, and afterward something moving within his nostril, which he brought away with his fingers; it was a worm of the centiped kind, an inch and an half long, which ran swiftly. It lived 5 or 6 days among tobacco. The patient was free from his pain ever after.

Mr Littre mentioned a like case, in 1708, of a larger centiped voided at the nose, after it had thrown the woman, in whose frontal sinus it was, into convulsions, and had almost taken away her reason. Hist Acad. Scienc. 1733.

specific names of the Carabi

maxillosus		piciconnis	
thoracicus		flaviconnis	
aptera		fulvipes	
coriaceous		piceus.	pitchy
glabratus		femoralis	(color of thighs)
violaceous	violet colour.	terricola	
convexus	convex)	madidus	
purpurascens	purple or violet	americanus	american
nigra..	black	bicolor.	
cyaneus		janus	
bitricatus		fumans	
tuberculatus		crepitans	
catenulatus		sclopeta	
problematicus		spinibarbis	
carolinus	Carolinian	aenocephalus	
hispanus	Spanish	humeralis	(color of legs)
monilis.		trilobus	
hortensis	garden	multipunctatus	numerous dots
gemmatus		oblongopunctatus	
striatus		variolosus	
concolor		axillaris	
taedatus		cinctus	
irregularis		rufipes	red feet
ardensis		nitidulus	
catenulatus		Dianae	
hungaricus	hungarian	agilis	
retusus		ruficollis	red thorax
maderae	Madeira	olens	
auratus	golden	fasciatus	
splendens &		atricapillus	
splendidus		4 pustulatus	
suturalis		oblongus	
nitens		rubens	
auraeus	& golden	venator	
auronitens		sulcatus	
morbillosus		nimrod	
rugosus		10 guttatus	
clathratus		6 ditto	
granulatus		4 ditto	
rostratus		7 ditto	
attenuatus		tabidus	
elevatus		nigripennis	
unicolor.		variegatus	
attelaboides		exclamationis	
leucophtalmus		trilineatus	
planus.		cephalates	
spiniger.		cicindeloides	
obsoletus		laevigatus	
striatulus		interruptus	remote (cans)
sabulosus		bicuspidatus	
arenarius	in sandy places found.	calydonius	
lateralis		complanatus	
ruficonnis		bimaculatus	
		bipustulatus	
		6 pustulatus	
		variolosus	
		striola	
		metallicus	

politus
alternans
calidus
sericeus
porcatus
reflexus
angulatus
cassideus
silphoides
globosus
indagator
auropunctatus — brassy or golden dots
sycophanta
inquisitor
scrutator
reticulatus — reticulated
longicornis
brevicollis
rostus dicollis
ochropus
punctulatus
obscurus
micans
bicolor
holosericeus
sulcatus
2 notatus
fulvicollis
pilicornis — hairy antennae
semipunctatus — dots on posterior half
caerulescens
virens
lepidus
Schaeh
cupreus — coppery
carnifex
vulgaris
communis
ovatus
latus
abdominalis
helopioides
azureus — azure
erythrocephalus — red head
analis
linearis
ferrugineus
rufitarsus — soles of the feet ferrugineus
paliens
surinamensis
dorsiger
aterrimus
aeneus
nigricornis
nitidulus
parum punctatus
discoideus
marginatus
vestitus
pallipes — pale feet

fuscus
nigrita
melanocephalus — black head
cyanocephalus — blue head
subfasciatus
lividus
amethystinus
crux major
crux minor
bipustulatus
vittatus
turcicus — from apple lunule
haemorrhoidalis
piceipes.
andreae
elevatus
germanus — german
velox.
rufescens
praeustus
apricarius
lunatus
equus.
ferrugineus
cursor
furcatus — forked
discus
meridianus
vaporariorum
comma
4 maculatus
4 guttatus
rustulatus
dentellus
rupestris
dorsalis
biguttatus
gibbula

bassida

viridis — Green
cruentata
sanguinolenta
sibilis
prasina
spergulae
murraea — named after Murray.
liriophora
equestris
nebulosa
maculata
nobilis
splendidula
atrata
affinis
austriaca — austrian
cribraria
denista
octo-punctata
interrupta
sex punctata
annulosa
judaica — Jewish
hebraea — Hebrew.
cincta
marginella
limbata
ferruginea
bibax
truncata
gibbosa
bidens
spinifex
bicornis
perforata
jamaicensis
marginatacea
farinosa
fusca — tawny
crux
cruciata
undecim-punctata
bifasciata
flava — yellow
purpurea — purple
leucophaea
tuberculata
bituberculata
suturalis
biguttata
milaris
reticularis
variegata
trifasciata
annulata
grossa
clathrata
septem guttata
exclamationis — as line resembles !
lineata
dorsata
quadripustulata
cyanea
marginata
inaequalis
subpunctata
lateralis
discoides
decussata
bipunctata
bipustulata
sex pustulata
sex decim pustulata
angustata
tuberculata
taurus
retiformis — reticulated
palliata
rubiginosa
cuprea
nitens
superba
sanguinolenta
arcuata

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